NetCommWireless

# 4G Camera **Solution**

**4G WiFi M2M Router**
NTC-140W
**Network Camera**
Axis P1428-E

NetCommWireless

# Introduction

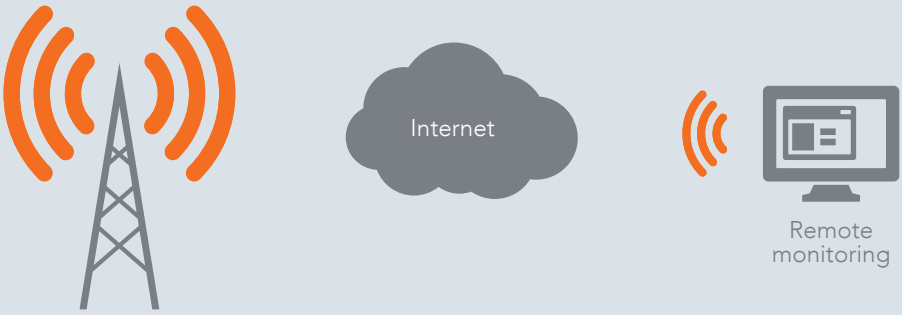
The NetComm Wireless **4G Camera Solution** has been developed to improve productivity and increase profitability of system integrators.

The demand for wireless camera solutions is growing constantly. Applications include construction companies who want to visually track the progress of a project and share it with investors, retailers of all sizes who want a camera in their store to improve security, local governments who want to install cameras in remote locations to monitor traffic or improve on street security, etc.

Designed to serve as either a standalone solution or a starter kit to a more complex solution, the NetComm Wireless **4G Camera Solution** will guide you through the setup and configuration of a design which includes an industrial grade NetComm Wireless 4G WiFi M2M Router, an Axis P1428-E Network Camera and all other accessories to make the solution work – first time.

Although this document guides you through an example setup, we at NetComm Wireless hope to leave you with a great impression of how easy it is to work with our robust and powerful M2M equipment and that you may gain the skills and experience to consider far more complex solutions using similar equipment.

This bundle is useful in many applications including remotely monitoring a construction site, a car park or an outdoor event.



NetCommWireless

## Package contents

The 4G Camera Solution includes:

NetComm Wireless NTC-140W
4G WiFi M2M Router

Axis P1428-E
Network Camera

1 x Power over Ethernet
(PoE) Injector (PSU-0015)

1 x NTC-140W Power
supply unit (PSU-0039)

## Pre-requisites

- A SIM card with a publically routable IP address – if you wish to access the camera or its video stream remotely (from a machine not connected to the local area network).
- An additional Ethernet cable for configuration from a laptop.
- Depending on your chosen location for the Router, the Power over Ethernet Injector and the Camera, you may require an additional Ethernet cable to cover this distance.

# Router configuration

For installation instructions, please refer to the Quick Start Guide included in the 4G M2M WiFi Router package. When you have installed the router as described in the Quick Start Guide, continue to the next section of this guide to configure the router and camera for use together.

NetCommWireless

## Configuring the NetComm Wireless router for use with the camera

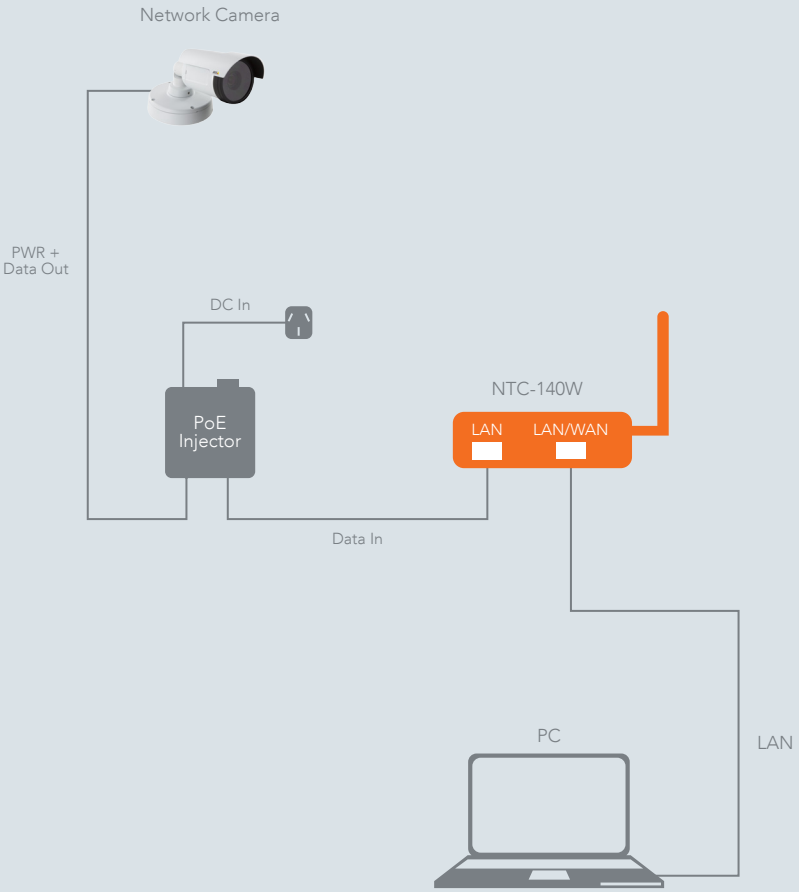
Configuring the router for use with the camera involves the following steps:

1. Determining the camera's DHCP IP address
2. Configuring the camera with a static IP address
3. Forwarding the required ports to the camera
4. Configuring the Dynamic DNS (required for remote access if mobile broadband account does no have a static IP address)

## 1. Determining the camera's DHCP IP address

When the camera is connected to the router, it is assigned an address dynamically. In order to connect to the camera for the initial setup, you need to find out its address.

**a)** Connect the IP network camera to the router as pictured below.



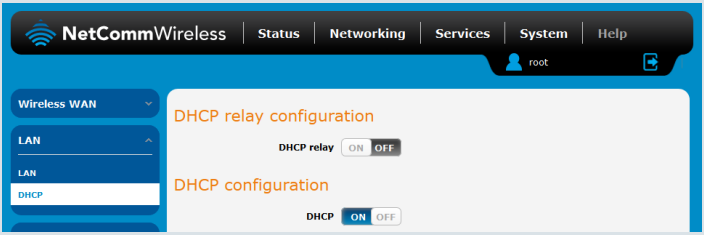
**b)** Using a web browser, navigate to **http://192.168.1.1.** Log in to the 4G WiFi M2M Router with the following credentials:

Username: **root**

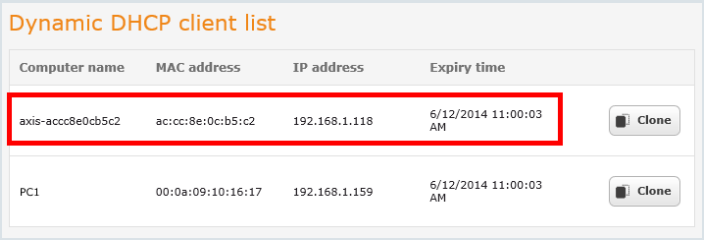
Password: **admin**

Further instructions on logging in to the router are described in the 4G WiFi M2M Router Quick Start Guide.

**c)** Select the **Networking** menu item, then the **LAN** menu on the left and finally select the **DHCP** item.




**d)** Scroll to the bottom of the page to the **Dynamic DHCP client list.**

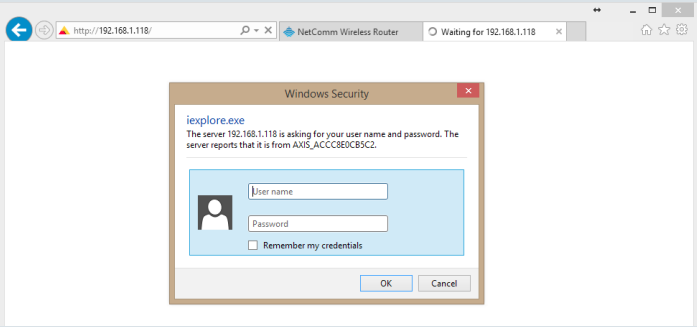



The camera and your connected computer appear in the DHCP client list. To identify the camera's IP address, look for a device with the Computer name beginning with "axis" as shown in the above screenshot. When you have done so, take note of the camera's IP address. In this example, it is 192.168.1.118.

## 2. Configuring the camera with a static IP address

So that you can access the camera with the same address in future, it is important to assign the camera with an IP address that doesn't change.

**a)** Open a new tab in your browser and navigate to the camera's dynamically assigned IP address. The screenshot below shows a browser accessing the camera via its dynamically assigned address of 192.168.1.118:




**b)** Log in to the router using the following credentials:

Account: **root**

Password: **pass**

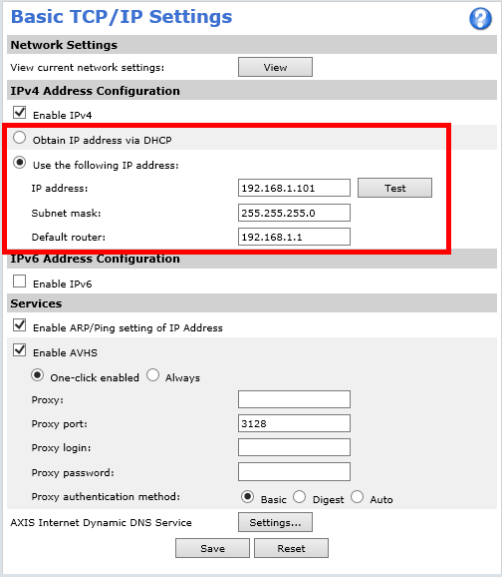
Click the **OK** button. The camera's user interface is displayed

**c)** From the menu bar along the top of the screen, select the **Setup** link as shown below.

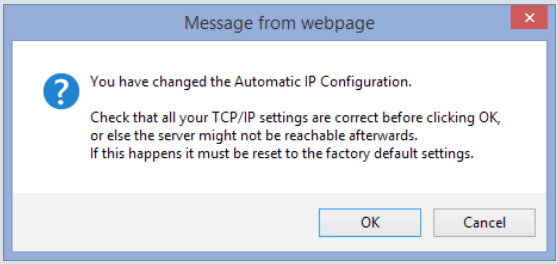
**d)** Using the menu on the left of the screen, navigate to **System Options -> Network**

The **Basic TCP/IP Settings** page is displayed.

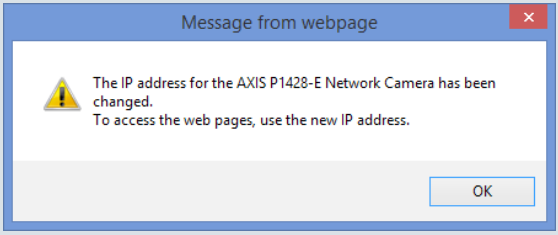
**e)** Select the Static IP Address option then enter a static IP address for the camera within the router's IP address range. Since the NetComm Wireless router uses the DHCP range of 192.168.1.X, configure the camera's address to something in this range that is not in use, for example 192.168.1.101. Set the Default router to 192.168.1.1. An example screenshot is shown below.



**f)** Select the **Save** button. The camera prompts you to check that your TCP/IP settings are correct. Select the **OK** button on the message window.


Message from webpage
You have changed the Automatic IP Configuration.
Check that all your TCP/IP settings are correct before clicking OK, or else the server might not be reachable afterwards.
If this happens it must be reset to the factory default settings.
OK
Cancel

You are informed that the IP address of the camera has changed. Click the **OK** button.

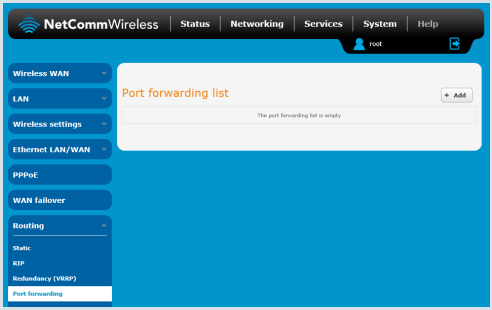

Message from webpage
The IP address for the AXIS P1428-E Network Camera has been changed.
To access the web pages, use the new IP address.
OK

## 3. Forwarding the required ports to the camera

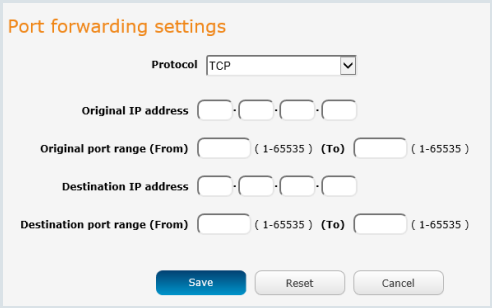
Each model of camera uses a range of virtual network ports to send and receive data. Due to the nature of connecting through a router with network address translation, it is necessary to inform the router of the camera's ports so that all features work.

**a)** In the same browser tab you used to access the 4G WiFi M2M Router, log in to the NetComm Wireless router again as you did in step 1 b).

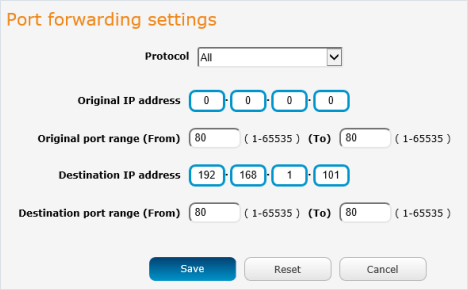
**b)** Select **Networking -> Routing -> Port forwarding**




**c)** Select the **+Add** button. The Port forwarding settings page is displayed.

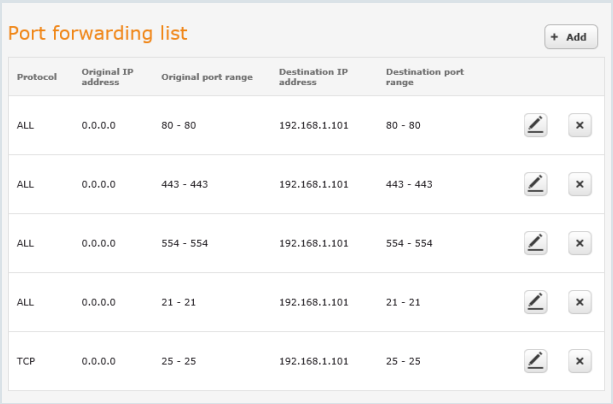


**d)** Add the required forwarding rules one at a time. For example, to forward port 80 to the camera with a static IP address of 192.168.1.101, enter the details as follows:




The **Original IP address** setting of 0.0.0.0 means that the router forwards traffic from any source address. You can add a range of ports by entering the first port in the range in the **(From)** fields and the last port in the **(To)** fields. Click the Save button when you have entered the required details.

The screenshot below shows the router configured to forward the required ports for the Axis P1428-E Network camera configured with a static IP address of 192.168.1.101.



## 4. Configuring Dynamic DNS (required for remote access if mobile broadband account does not have a static IP address)

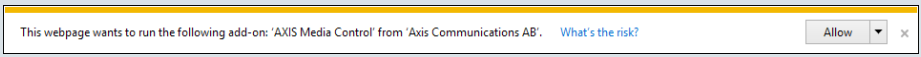
Most mobile broadband providers assign WAN IP addresses dynamically. If your carrier assigns IP addresses dynamically and you want to access the camera remotely, it is best to use a Dynamic DNS service so that you can use a single hostname to access the camera even when the IP address changes.

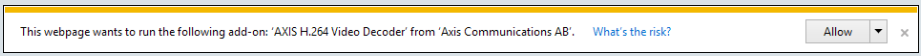
**a)** Select **Services** then click the **DDNS configuration** toggle key to enable Dynamic DNS.

**b)** Use the **Dynamic DNS** dropdown list to select your Dynamic DNS provider.

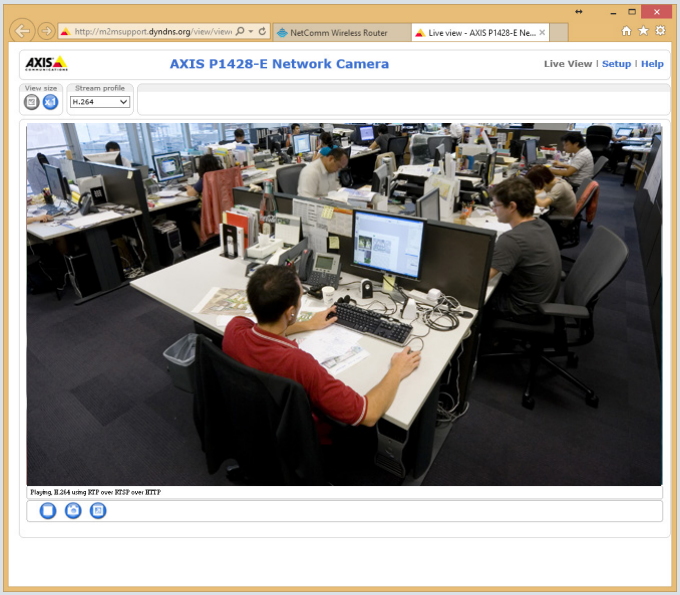
**c)** Enter your **Host name, Username** and **Password** then click the **Save** button.

**d)** Enter the dynamic DNS hostname into your browser's URL bar and press **Enter**. Log in to the camera using its username and password. After logging in to the network camera, you may be required to allow the camera to install browser add-ons before live video is displayed. If you are prompted, select **Allow**.



The setup is complete.



## Product Warranty

For product warranty terms and conditions please refer to the individual guides for your devices.

## Safety and product care

Please refer to the user guide for safety and product care information.

NetCommWireless

NETCOMM WIRELESS LIMITED ABN 85 002 490 486

**Head Office**, 18-20 Orion Road
Lane Cove, Sydney, NSW 2066, Australia

**p:** +61 2 8205 3888 **f:** +61 2 9424 2010
**e:** m2msales@netcommwireless.com

www.netcommwireless.com

QSG-00061 rev2